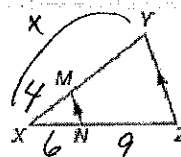


For Exercises 14 and 15, refer to  $\triangle XYZ$ .

14. If  $XM = 4$ ,  $XN = 6$ , and  $NZ = 9$ , find  $XY$ .  
15. If  $XN = t - 2$ ,  $NZ = t + 1$ ,  $XM = 2$ , and  $XY = 10$ , solve for  $t$ .



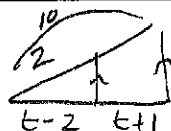
#14

$$\frac{4}{x} = \frac{6}{15}$$

$$2x = 20$$

$$x = 10 = XY$$

#15



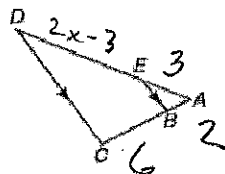
$$\frac{t-2}{t+1} = \frac{2}{8}$$

$$t+1 = 4t-8$$

$$9 = 3t$$

$$3 = t$$

17. Find  $x$  and  $ED$  if  $AE = 3$ ,  $AB = 2$ ,  $BC = 6$ , and  $ED = 2x - 3$ .



$$\frac{3}{2x-3} = \frac{2}{6}$$

$$9 = 2x - 3$$

$$12 = 2x$$

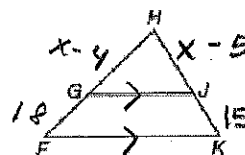
$$6 = x$$

$$ED = 9$$

Find  $x$  so that  $\overline{GJ} \parallel \overline{FK}$ .

20.  $GF = 12$ ,  $HG = 6$ ,  $HJ = 8$ ,  $JK = x - 4$

21.  $HJ = x - 5$ ,  $JK = 15$ ,  $FG = 18$ ,  $HG = x - 4$



$$\frac{x-4}{18} = \frac{x-5}{15}$$

$$5x - 20 = 6x - 30$$

$$10 = x$$

ALGEBRA Find  $x$  and  $y$ .

$$2x + 3 = 6 - x$$

$$3x = 3$$

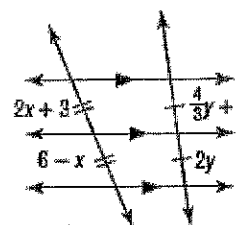
$$x = 1$$

$$\frac{4}{3}y + 1 = 2y$$

$$1 = \frac{2}{3}y$$

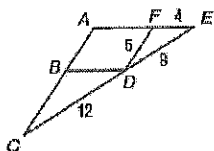
$$\frac{3}{2} = y$$

34.



Find the perimeter of the given triangle.

10.  $\triangle ABC$ , if  $\triangle ABC \sim \triangle FDE$ ,  $CD = 12$ ,  $FD = 5$ ,  $FE = 4$ , and  $DE = 8$

 $\triangle FDE$ 

$$p = 5 + 4 + 8 = 17$$

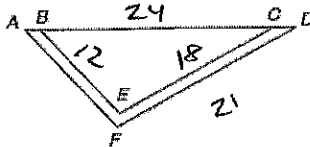
$$\frac{17}{p} = \frac{8}{12}$$

$$2p = 17 \cdot 3$$

$$p = 25.5 \text{ units}$$

 $\triangle BCD$ 

11.  $\triangle ADE$ , if  $\triangle ADE \sim \triangle BCE$ ,  $BC = 24$ ,  $EB = 12$ ,  $CE = 18$ , and  $DF = 21$



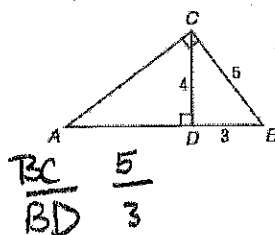
$$\triangle BCE \quad p = 12 + 18 + 24 = 54$$

$$\frac{54}{p} = \frac{18}{21}$$

$$p = 63 \text{ units}$$

 $\triangle ADF$ 

14.  $\triangle ABC$ , if  $\triangle ABC \sim \triangle CBD$ ,  $CD = 4$ ,  $DB = 3$ , and  $CB = 5$

 $\triangle CBD$ 

$$p = 3 + 4 + 5 = 12$$

$$\frac{BC}{BD} = \frac{5}{3}$$

$$\frac{4}{p} = \frac{3}{5}$$

$$p = 20 \text{ units}$$

 $\triangle ABC$ 

#22

$$\frac{12}{32} = \frac{x-5}{2x-3}$$

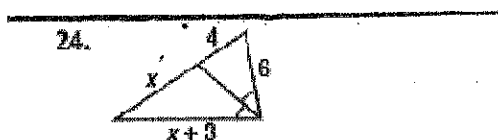
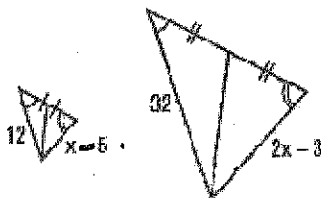
$$6x - 9 = 8x - 40$$

$$31 = 2x$$

$$15.5 = x$$

Find x.

22.



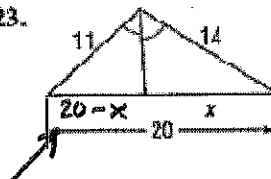
24.

$$\frac{x+3}{x} = \frac{6}{4}$$

$$2x + 6 = 3x$$

$$6 = x$$

23.



$$\frac{11}{20-x} = \frac{14}{x}$$

$$11x = 280 - 14x$$

$$25x = 280$$

$$x = 11.2$$